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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,469	11/07/2001	Kechuan Liu	135887	3702

24587 7590 10/22/2003

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EXAMINER

COLE, LAURA C

ART UNIT PAPER NUMBER

1744

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/053,469	Applicant(s) LIU ET AL.	
	Examiner Laura C Cole	Art Unit 1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 and 35 is/are rejected.
- 7) ☐ Claim(s) 33 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the resilient member (Claims 3 and 24), mechanical spring (Claims 15 and 30), and the hydraulic spring (Claims 16 and 32) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 Lines 4-5 recite, "...where the cleaning media has a thickness *past the end* of the cleaning rod..." It is unclear as to which direction the thickness extends. Is the thickness the length or diameter of the cleaning media?

Claim 3 recites the limitation "the axis" in Line 3. There is insufficient antecedent basis for this limitation in the claim.

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3. Claims 24 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites the limitation "the axis" in Line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3-13, 15, 19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Peyron, USPN 3,030,967.

Peyron discloses the claimed invention including a cleaning rod (41), a cleaning media connected to an end of the rod (31, 32, 33, 34, 35, 36, 37, 38) where the cleaning media has a thickness past the end of at least about 0.125 inches and more preferably between 0.125 inches and about 0.5 inches (Column 4 Lines 55-59, the "thickness" being 0.25 inches), an electric drive mechanism (14; Column 4 Lines 12-14), a resilient member being a spring (16, 17), the cleaning media is a foam material or a pile bristle being within the above dimensions (Column 4 Line 54 to Column 5 Line 20) which is a

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swab, brush, pad, and/or foam, there is a handheld body housing the drive mechanism (Column 3 Lines 58-61), the mechanical motion the drive mechanism is creating is oscillating linear motion (Figure 2; Column 4 Lines 31-34).

5. Claims 1, 4, 7, 8, 13, 19-22, 26, 29, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Meislin, USPN 6,491,692.

Meislin discloses the claimed invention including a cleaning rod (12a or 12b), a cleaning media connected to an end of the rod (18a or 18b) wherein the thickness is at least 0.125 inches or preferably in the range of 0.125 to 0.5 inches (Column 3 Lines 24-30, wherein 3.5 mm is 0.137 inches and 5.5 mm is 0.2165 inches), a drive mechanism coupled to the cleaning rod to impart mechanical motion, the mechanical motion being rotary (Figure 1; Column 3 Lines 39-41) or oscillatory (Figure 2; Column 4 Lines 2-5), wherein the cleaning media is a brush (bristles 18a or 18b), and there is a handheld body (Figures 1-2).

6. Claims 1, 7, 13, 19-22, 26, and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Lawrence, USPN 4,850,071.

Lawrence discloses the claimed invention including a cleaning rod (14 or 12), cleaning media connected to an end of the rod (20) where the cleaning media has a thickness of at least 0.125 inches (from the sizes given to the shafts it is inherent that it is can be greater than 0.125 inches, see Column 2 Lines 50-62; see Figures), a drive mechanism coupled to the cleaning rod such as manual or electrical (Column 2 Lines 63-67), the cleaning media is a brush (20), there is a handheld body (Column 3 Lines 5-

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11), the motion is rotary (Column 2 Line 64) or oscillatory if desired by manipulating by hand (see above, rod can be moved manually).

7. Claims 1, 2, 4-6, 9-12, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyake et al., US 2002/0166190.

Miyake et al. disclose the claimed invention including a cleaning rod (22), a cleaning media connected to an end of the cleaning rod (21) where the cleaning media has a thickness past the end of between 0.125 inches and 0.5 inches (as shown in Figure 2; the size must be for an optical connector and therefore would inherently have a size in that range), a drive mechanism to impart mechanical motion (such as being held by a users hand), a mating connector housing the rod without being operatively coupled (23), the cleaning media is a swab, pad, or foam made from thin fabric or urethane (Page 2 paragraph [0016]), the handheld body is the member (22).

8. Claims 1-4, 9-10, 13, 15, 19-20, 22-24, 27, 29, 31, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Sato, US 2002/0131748.

Sato discloses the claimed invention including a cleaning rod (5), a cleaning media connected to an end (4), where the cleaning media has a thickness past the end of the cleaning rod between 0.125 inches and 0.5 inches (see Figure 5A; the size must be for an optical connector and therefore would inherently have a size in that range), a drive mechanism (200; Page 2 paragraph [0026]), a mating connector housing the cleaning rod without being operatively coupled to the drive mechanism (3), a resilient member coupled to the cleaning rod and biasing the cleaning rod in a direction (13), the cleaning media is a pad (see Sato claim 1), the drive mechanism is electric (Page 3

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paragraph [0029]), the spring is a mechanical spring (13), the device has a handheld body (Abstract; (24)), the motion is rotary (Abstract).

9. Claims 1, 4, 7, 8, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Halverson, USPN 4,204,294.

Halverson discloses the claimed invention including a cleaning rod (36), cleaning media connected to an end of the cleaning rod (14) where the cleaning media has a thickness past the end of the cleaning rod of at least about 0.125 inches (see Figures; the size must be for an electrical terminal and therefore would inherently have a size in that range), a drive mechanism coupled to the cleaning rod to impart mechanical motion on the cleaning rod (a user's hand imparts mechanical motion when in use to clean the electrical terminals), the cleaning media is a brush (14), and the device is hand held (see Figures).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 14 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meislin, USPN 6,491,692 in view of Fisher et al., USPN 5,301,471.

Meislin discloses all elements above however does not include a pneumatic drive mechanism.

Fisher et al. disclose a rotary portable air unit that is used as a sander, polisher, or eraser (Abstract). Fisher et al. further provides the teaching of using a pneumatic drive as they are safe, inexpensive, and reduce pollution (Column 1 Lines 13-33).

It would have been obvious for one of ordinary skill in the art to modify Meislin and use a pneumatic drive that Fisher et al. teach, instead of an electric drive to save on costs, easy to maintain, reduce pollution, and are safe.

11. Claims 16 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato, US 2002/0131748.

Sato discloses all elements above, however Sato does not include a hydraulic spring. Sato does teach that it is desired to have the cleaning rod held in place during treatment. Hydraulic springs are also well known.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the mechanical spring for a hydraulic spring since it has been held to be within the general skill of a worker in the art to select a known

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material on the basis of its suitability for the intended use as a matter of obvious engineering choice. In re Leshin, 125 USPQ 416.

12. Claims 5, 6, 11, 12, 2,5 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawrence, USPN 4,850,071 in view of George et al., USPN 6,170,107.

Lawrence discloses all elements above, however does not include that the cleaning media could be a swab or a foam.

George et al. discloses a rotating cleaning apparatus that has an electrical driving device and has a handheld body. Further the cleaning media attached to the cleaning rod is interchangeable so as to allow replacement of parts or for varying the applications of the tool (Abstract; Figures; Column 1 Line 49 to Column 2 Line 13). Specifically, George et al. teaches a foam swab (Figure 4 (40)).

It would have been obvious for one of ordinary skill in the art to provide Lawrence with various other cleaning attachments such as a foam swab as George et al. teach so that the device may be useful in other cleaning situations.

Allowable Subject Matter

13. Claims 17 and 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. Claims 33 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: None of the prior art made of reference disclose a dummy card connector on which the drive mechanism is mounted and the cleaning rod is coupled.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2003/0098045 to Loder et al. discloses an article and process for cleaning optical surfaces. This art is filed after the filing date of the present application.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (703) 305-7279. The examiner can normally be reached on Monday-Thursday, 7am - 4:30pm, alternating Fridays. After December 17th, the Examiner's office will be located at the new USPTO site in Alexandria, Virginia. After this projected date, you may reach Examiner Laura Cole by phone at 571-272-1272 or by fax at 571-273-1272.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden can be reached on (703) 308-2920 (or after December 17th may be reached at 571-272-1281). The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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LCC

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